*****LOAD BALANCER*****

Load balancer distributes incoming web traffic across multiple servers to prevent the overload and give the high performance.

There are four types of Load Balancer :

1)Classical Load Balancer

2)Application Load Balancer

3)Network Load Balancer

4)Gateway Load Balancer

Classical Load Balancer:

It distribute the traffic at the transport layer (TCP/UDP) level.

Application Load Balancer :

It operates at the application layer (HTTP/HTTPS) to route traffic based on content.

Network Load Balancer :

It directs the traffic at network layer(IP/TCP) to handle high volumes with low latency.

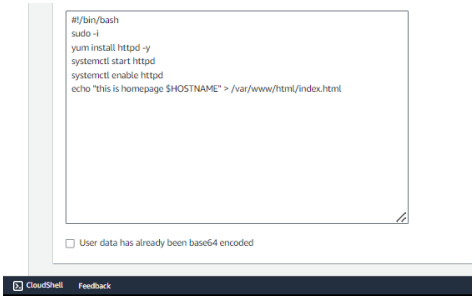
Gateway Load Balancer:

It manages the traffic between virtual private clouds in cloud Environment.

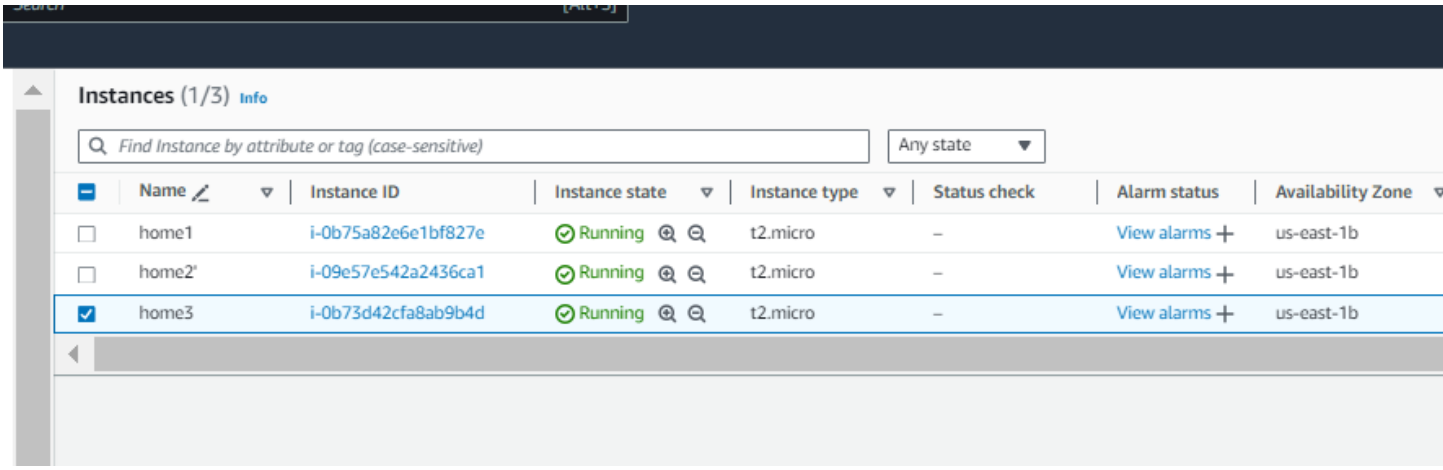
TO CREATE THE INSTANCES FOR LOAD BALANCING###

Step I : go to an Ec2,Launch instances.

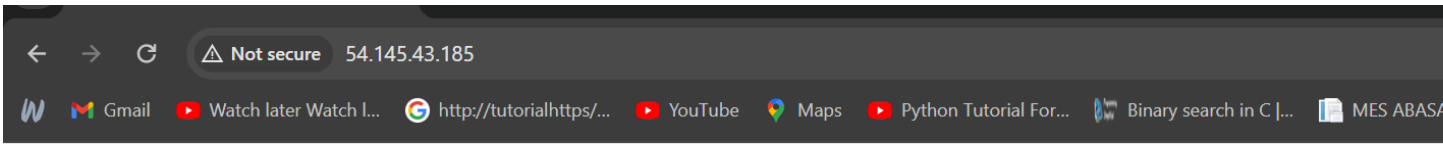
Step II : Launch the Instances for HomePage to allow HTTP traffic and go to Advance Details Add this Script and launch 3 instances at a time and then name them.



Step III : select any one public IP address and paste it on another browser.

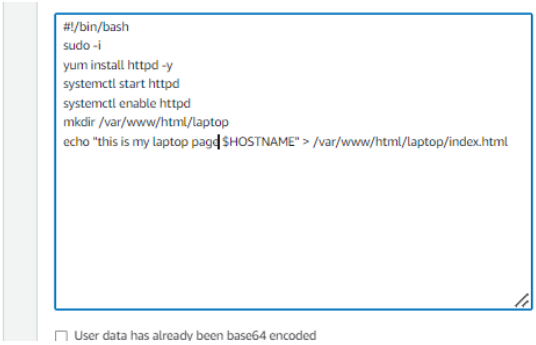


Step III : Here see it is work properly.



this is homepage ip-172-31-19-123.ec2.internal

Step IV : Follow same process for Laptop Page and mobile page add below scripts.

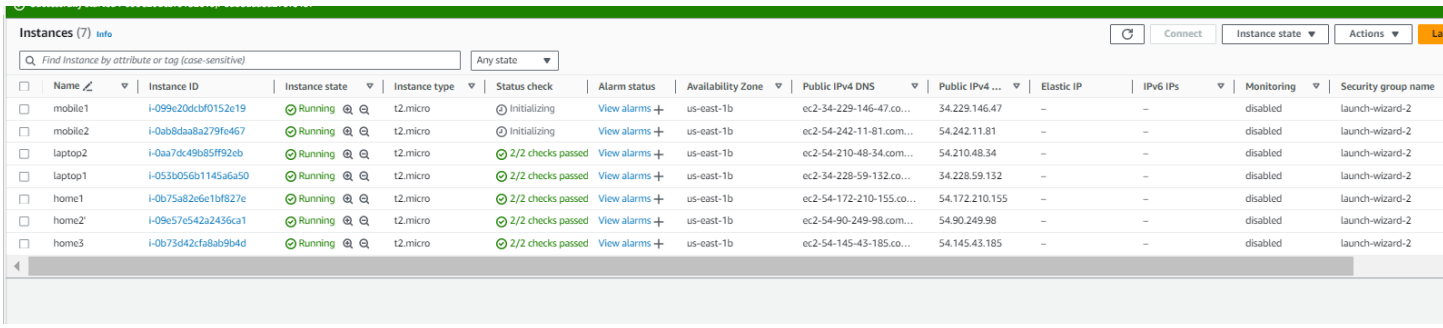


```
#!/bin/bash
sudo -i
yum install httpd -y
systemctl start httpd
systemctl enable httpd
mkdir /var/www/html/laptop
echo "this is my laptop page $HOSTNAME" > /var/www/html/laptop/index.html
```

User data has already been base64 encoded

```
#!/bin/bash
sudo -i
yum install httpd -y
systemctl start httpd
systemctl enable httpd
mkdir /var/www/html/mobile
echo "This is Mobile Page $HOSTNAME" > /var/www/html/mobile/index.html
```

Step V : and launch 2 instances for laptop and 2 for mobile



Instances (7) Info

Find Instance by attribute or tag (case-sensitive) | Any state

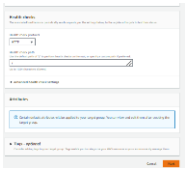
Connect | Instance state | Actions

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs	Monitoring	Security group name
mobile1	i-099e20dcbf0152e19	Running	t2.micro	Initializing	View alarms	us-east-1b	ec2-34-229-146-47.co...	34.229.146.47	–	–	disabled	launch-wizard-2
mobile2	i-0ab8daa8a279fe467	Running	t2.micro	Initializing	View alarms	us-east-1b	ec2-54-242-11-81.com...	54.242.11.81	–	–	disabled	launch-wizard-2
laptop2	i-0aa7dc49b85ff92eb	Running	t2.micro	2/2 checks passed	View alarms	us-east-1b	ec2-54-210-48-34.com...	54.210.48.34	–	–	disabled	launch-wizard-2
laptop1	i-053b056b1145a6a50	Running	t2.micro	2/2 checks passed	View alarms	us-east-1b	ec2-34-228-59-132.co...	34.228.59.132	–	–	disabled	launch-wizard-2
home1	i-0b75a82e6e1bf827e	Running	t2.micro	2/2 checks passed	View alarms	us-east-1b	ec2-54-172-210-155.co...	54.172.210.155	–	–	disabled	launch-wizard-2
home2	i-09e57e542a2436ca1	Running	t2.micro	2/2 checks passed	View alarms	us-east-1b	ec2-54-90-249-98.com...	54.90.249.98	–	–	disabled	launch-wizard-2
home3	i-0b73d42cfa8ab9b4d	Running	t2.micro	2/2 checks passed	View alarms	us-east-1b	ec2-54-145-43-185.co...	54.145.43.185	–	–	disabled	launch-wizard-2

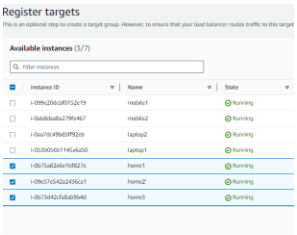
TO CREATE THE TARGET GROUP

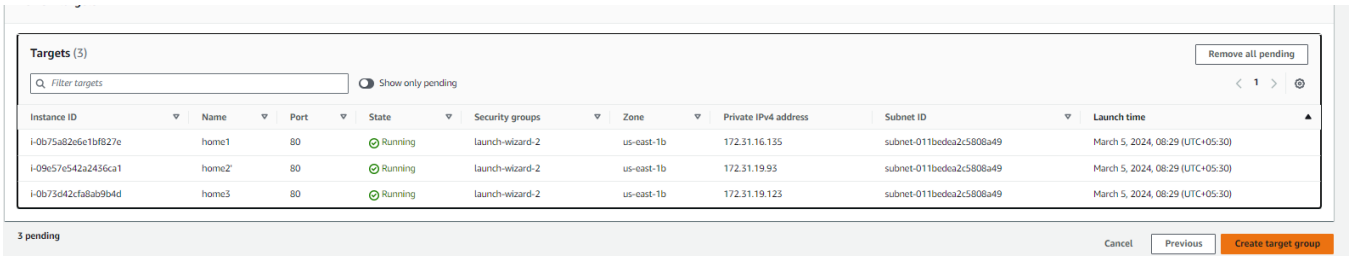
Step I : In EC2,load Balancing click on Target Group, then click on create target group.

Step II : Choose the target type and give the name to the group give health path as required click on next.



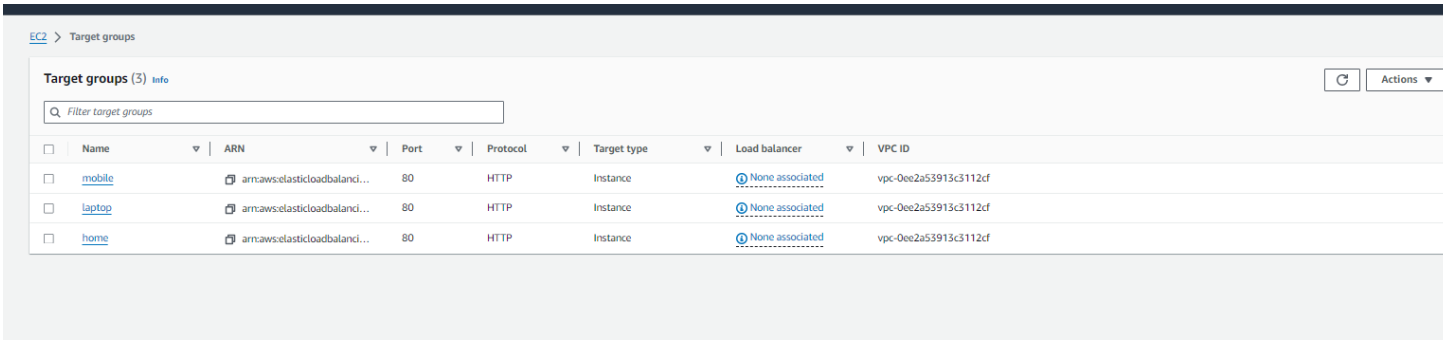
Step III : Then select the Instances and then Create the Target Group.





Step IV : Follow the same Process for laptop and Mobile and create the target group.

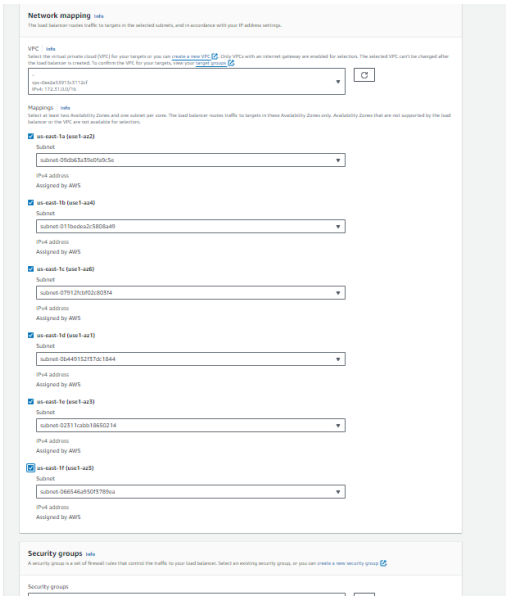
Step V : Here, The target groups are created.

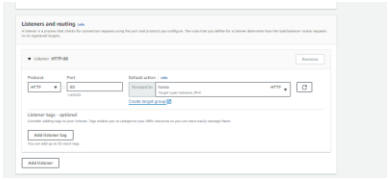


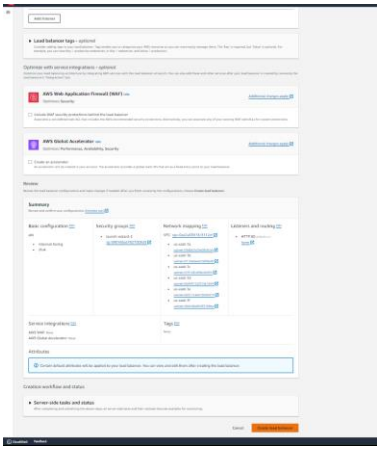
###Create the Load Balancer

Step I : Go to Load Balancer, then click on create the Load Balancer.

Step II : Select the all Regions,and listners and routing give the default action for home.

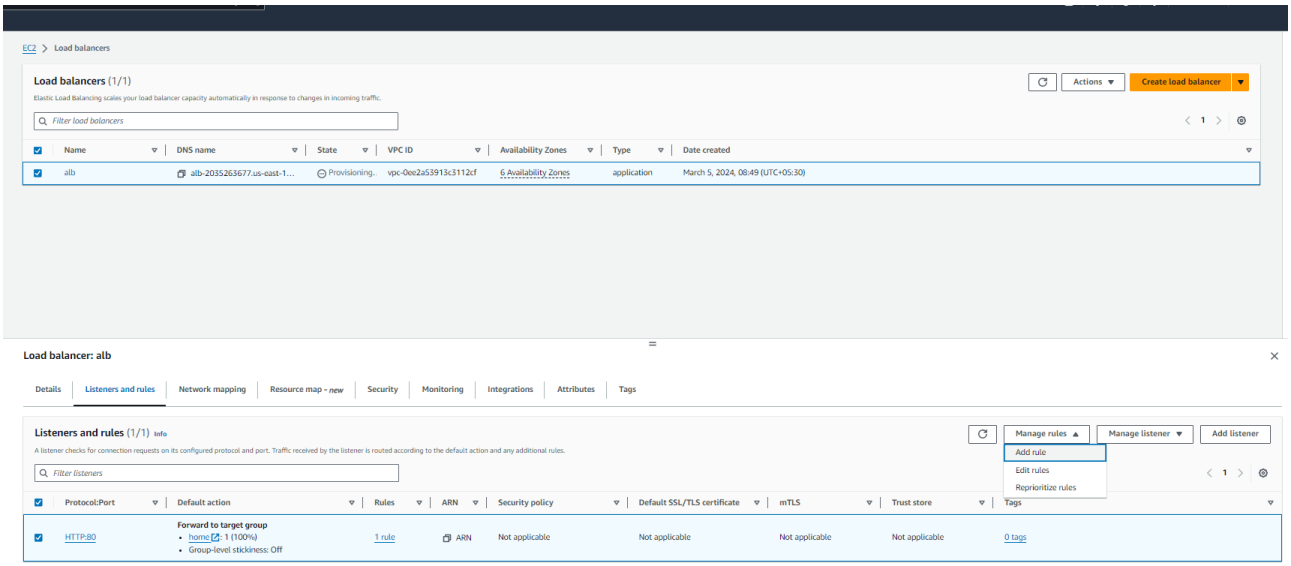




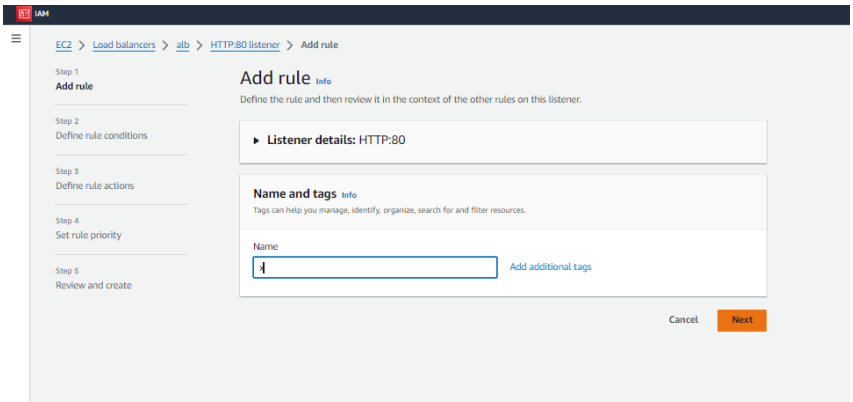


Step II : then click on create load balancer .

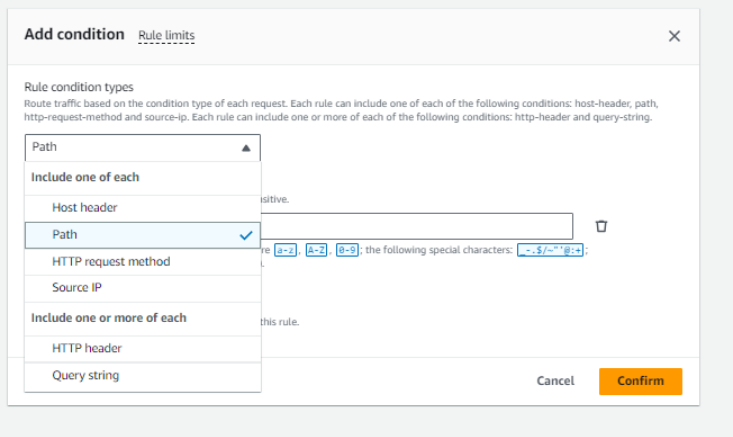
Step III : Here, Load Balancer is created select it and go to Listners and rules.click on add rules.

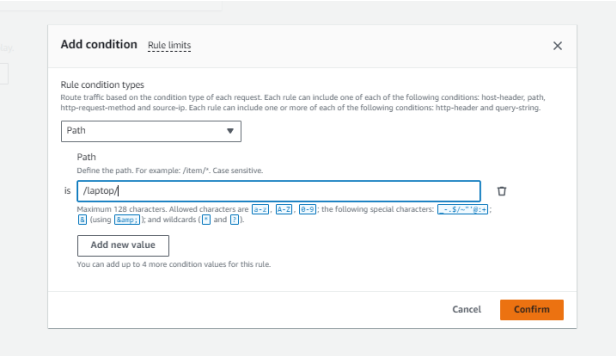


Step IV : Give the names and tags then next.

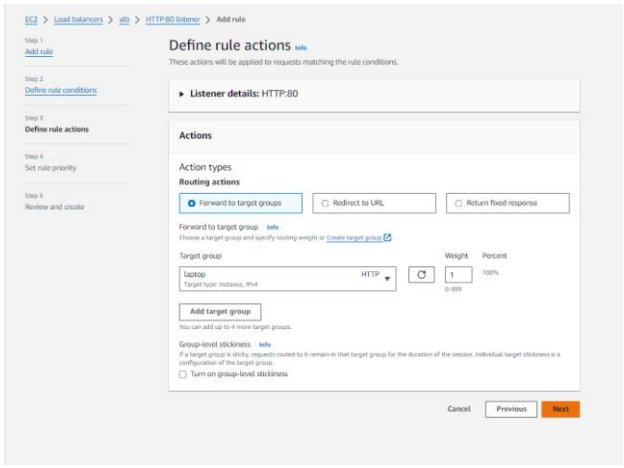


Step V : Then add Condition,Select here Path and give the path and confirm it.

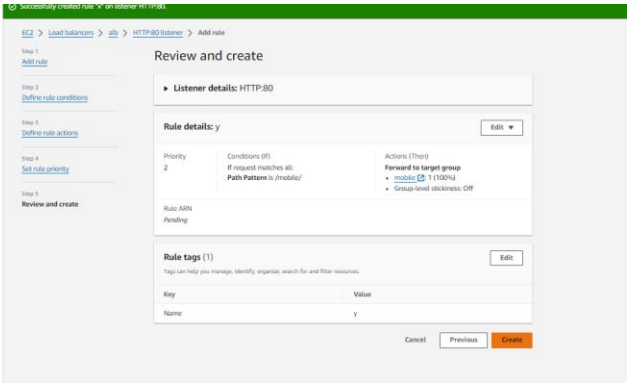




Step VI : Select the Target Group and then next.

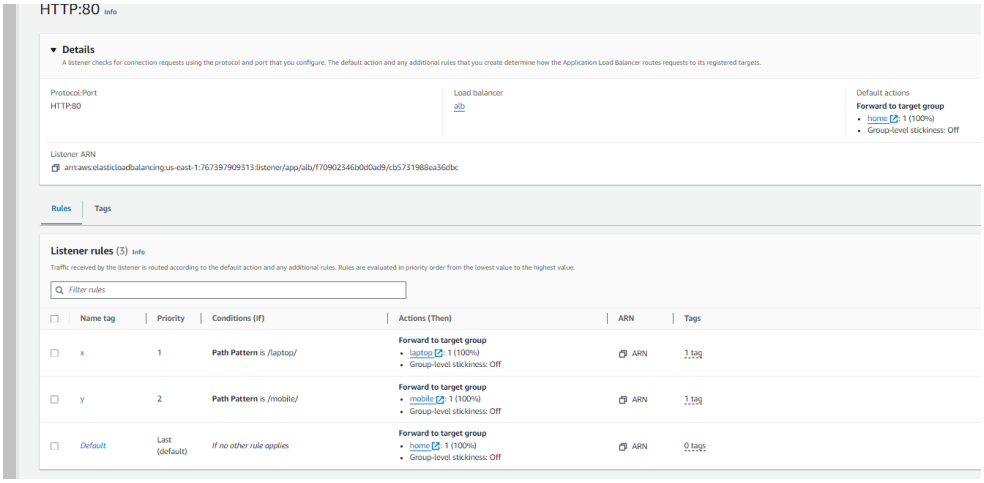


Step VII : Review it and click on create.



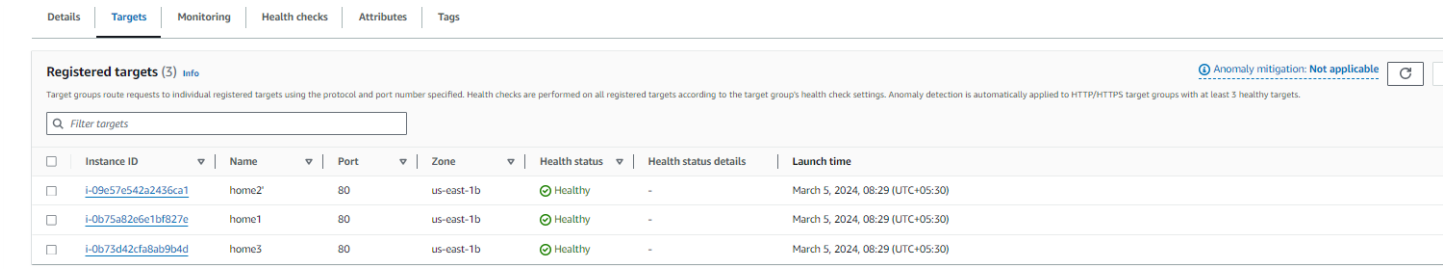
Step VIII : follow the same process to add the rule for mobile.

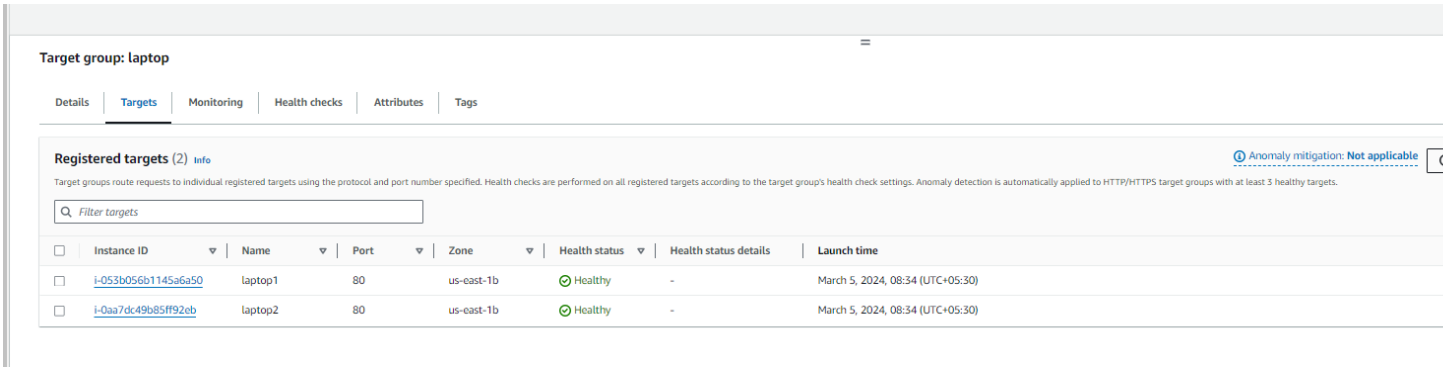
Step IX : here, the Listener rules are added

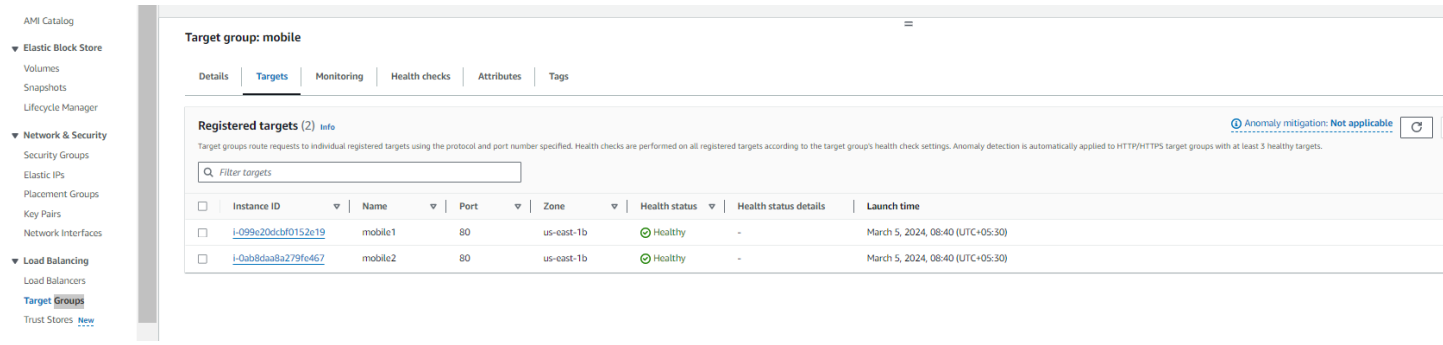


Step X : See here instances are healthy in target group

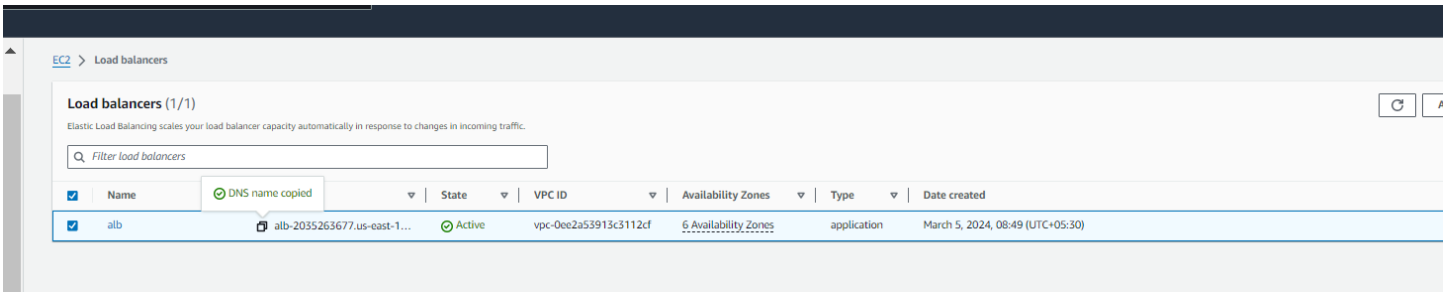
.

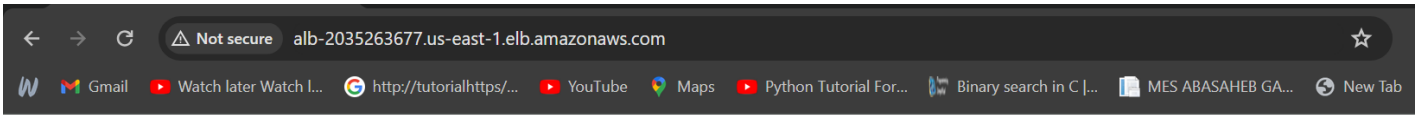






Step XI : Copy the DNS link of Load Balancer and paste it in other broswer.





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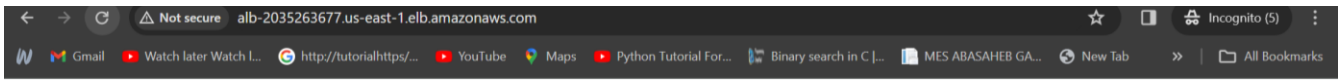

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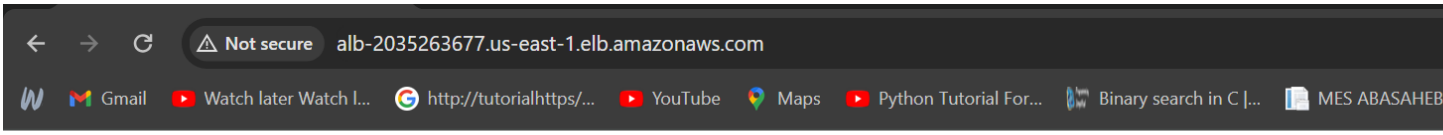

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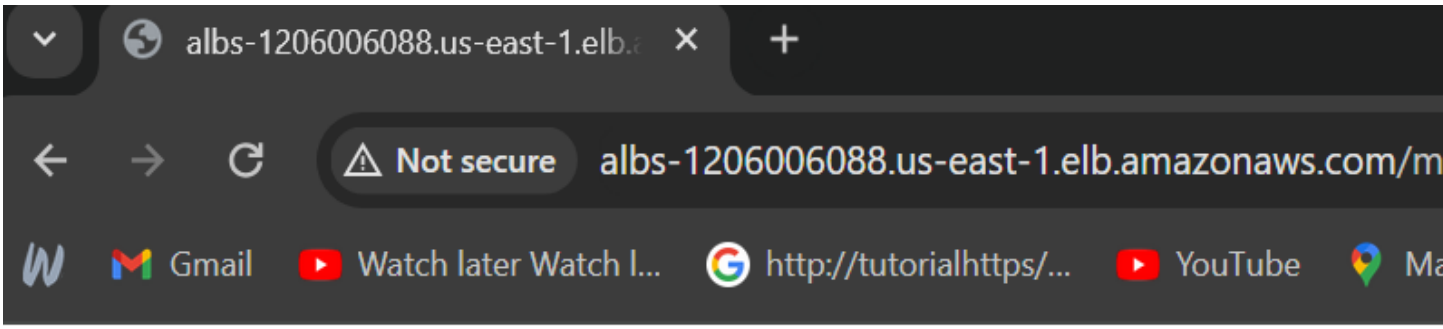
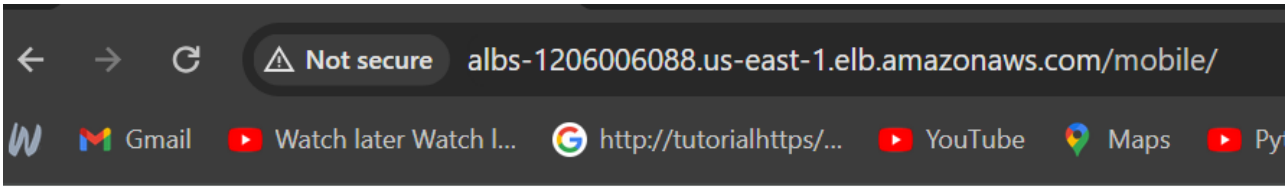
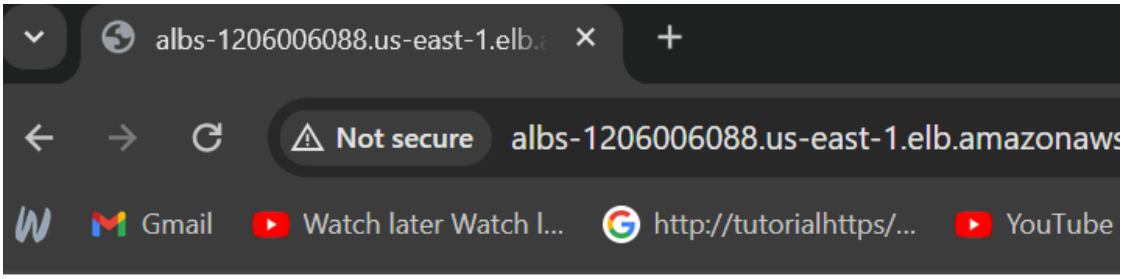


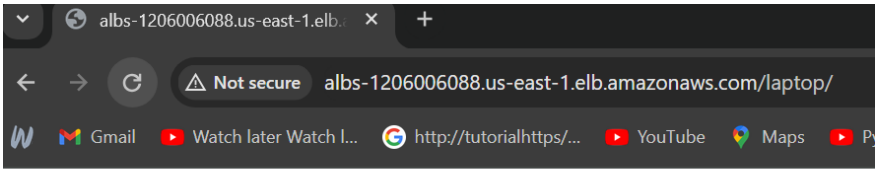
This is Mobile Page ip-172-31-27-14.ec2.internal



This is Mobile Page ip-172-31-27-14.ec2.internal



This is laptop page ip-172-31-36-146.ec2.internal



This is laptop page ip-172-31-40-164.ec2.internal